

EX PARTE OR LATE FILED

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APR 15 1997

Federal Communications Commission  
Office of Secretary

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IRVINE, CALIFORNIA 92614  
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LONDON EC4A 2HD  
44-171-413-0011  
FACSIMILE 44-171-413-0333

ROBERT M. HALPERIN  
(202) 624-2543  
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April 15, 1997

**BY HAND DELIVERY**

**EX-PARTE LETTER**

Mr. William F. Caton  
Acting Secretary  
Federal Communications Commission  
1919 M Street, N.W., Room 222  
Washington, D.C. 20554

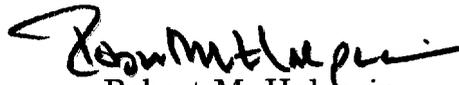
Re: Federal State Joint Board on Universal Service  
CC Docket No. 96-45

Dear Mr. Caton:

Transmitted herewith in duplicate, on behalf of the State of Alaska, is a copy of a letter addressed to Mr. John F. Clark of the Common Carrier Bureau concerning additional information relating to the provision of universal service support for telecommunications services to public or non-profit health care providers serving rural Alaska.

In the event there are any questions concerning this matter, please communicate with the undersigned.

Very truly yours,

  
Robert M. Halperin

Enclosure

cc: John F. Clark, Esq.

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April 15, 1997

**BY HAND DELIVERY**

John F. Clark, Esq.  
Universal Service Branch  
Common Carrier Bureau  
Federal Communications Commission  
2100 M Street, N.W.  
Room 8619  
Washington, DC 20554

Re: Federal State Joint Board on Universal Service  
CC Docket No. 96-45

Dear John:

On behalf of the State of Alaska, enclosed is additional information relating to the provision of universal service support for telecommunications services to public or non-profit health care providers serving rural Alaska.

As a preliminary matter, we would like to clarify several aspects of health care provision in Alaska. All of the hospitals in Alaska located outside of Anchorage are public or non-profit hospitals. Although most physicians practice out of private facilities, all mid-level practitioners (except one) work out of public or non-profit facilities operated by local tribal health organizations, local government, or local non-profit organizations. All community health aides work out of publicly funded clinics.

Rural health care providers will need to communicate with a variety of other providers. Rural hospitals would likely need telemedicine connections to both the larger hospitals in Alaska (in most cases, Anchorage) and Seattle. Those located in Southeast Alaska (*i.e.*, Ketchikan, Petersburg, Wrangell, and Sitka) would likely want to connect with Juneau or Anchorage, as well as Seattle.

Doctors and mid-level practitioners in communities that do not have a hospital would require connections to the nearest rural hospital (the distance to

John F. Clark, Esq.  
April 15, 1997  
Page 2

which is identified in our March 24, 1997 submission), to the nearest larger hospital (in most cases, Anchorage), and Seattle.

Community health aides would most likely work with or through their supervisory doctor or mid-level practitioner in their sub-regional center (usually the nearest rural hospital). Thus, they would need to be able to communicate with the nearest rural hospital and to the Alaska Native Medical Center in Anchorage.

Attachment 1 provides information the State received from the two facilities-based interexchange carriers in Alaska concerning the costs of providing services of different bandwidths to communities in rural Alaska.

Attachment 2 provides information concerning the distances between Anchorage and the other communities in the State that have hospitals. Please note, as demonstrated in Attachment 1, however, that satellite service costs are not distance sensitive.

As you know, telemedicine is of critical importance in Alaska, given the vast distances between rural communities and health care institutions and the difficulty and expense of travel. (We have addressed these issues before and will not repeat that discussion here.) The Conference Committee report accompanying the final version of the Telecommunications Act makes clear that Congress intended the Commission to adopt universal service rules that would assure that telecommunications services requested by rural health care providers were available in rural areas throughout the entire Nation at costs that are comparable to the costs for similar services in urban areas. Congress focused on both availability of services to rural health care providers and the affordability of those services:

New subsection (h) of section 254 is intended to ensure that health care providers for rural areas, elementary and secondary school classrooms, and libraries have affordable access to modern telecommunications services that will enable them to provider medical and educational services to all parts of the Nation.

The ability of K-12 classrooms, libraries and rural health care providers to obtain access to advanced telecommunications services is critical to ensuring that these services are available on a universal basis.

John F. Clark, Esq.  
April 15, 1997  
Page 3

H.R. Rep. 104-458, 104th Cong., 2d sess. 132 (emphases added). Congressional intent cannot be met unless the Commission takes steps to assure that rural health care providers throughout America -- including those in rural portions of Alaska -- are able to obtain affordable telecommunications services, that is services at a cost that is comparable to the cost for similar services in urban areas.

In terms of what we believe the Commission should do, we ask only that Alaskans have the same access to telemedicine as other Americans. Health care providers in rural Alaska seek the ability to communicate via the Internet to health care providers in urban areas, transmit medical records (textual, data and pictorial) without degradation and in a reasonable period of time, and, in some cases, engage in video conferencing. In other parts of the United States, the infrastructure is generally present to permit these functions to take place. In much of rural Alaska, that is not the case. In communities that do not have ISDN, DS-0, or 128K service, telecommunications service is limited to voice-grade lines provided through analog earth stations. Data transmissions occur at a maximum of 4800 bps and multiple satellite hops make data transmissions extremely difficult at best and often impossible. One of the purposes of the Telecommunications Act of 1996 was to remove the disparity between telecommunications "haves" and "have nots," by assuring adequate telecommunications infrastructure, particularly for schools, libraries, and rural health care providers.

In our view, Congressional intent can be satisfied only if the Commission provides universal service support for telemedicine to any telecommunications carrier serving a particular geographic area that (1) receives a bona fide request from a qualifying health care provider (2) for a telecommunications service in that same geographic area (3) if that telecommunications service is necessary to provide telemedicine services (4) to permit that carrier to acquire and deploy the infrastructure required to provide the requested services (5) if no other telecommunications carrier serving the geographic area in which such service is requested has the ability to provide the requested service. The carrier should then be required to provide the requested services at charges that are equivalent to the charges in the urban areas of that state (for Alaska, that should be Anchorage).

To minimize the cost of providing this support, the Commission may wish to consider establishing a mechanism through which future universal service support payments are reduced by an amount reflecting other revenues received by the carrier attributable to the new infrastructure. Specifically, the Commission could require any telecommunications carrier that receives universal service support for the development of infrastructure for telemedicine purposes to offset against

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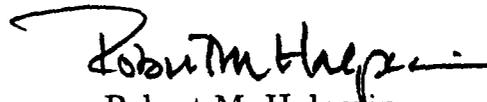
John F. Clark, Esq.  
April 15, 1997  
Page 4

future universal service support a percentage or amount of the revenues that are derived from services provided to users who are not eligible for special treatment under Section 254(h) [health care providers, schools and libraries]. In that manner, Congressional intent can be satisfied with minimum cost to the universal service fund.

We sincerely appreciate the attention the Commission and its staff are giving to this matter, which is of critical importance to the State and the people of Alaska.

Two copies of this letter will be provided to the Commission's Secretary for inclusion in the public file.

Respectfully submitted,



Robert M. Halperin  
Counsel for the State of Alaska

Attachments

cc: William F. Caton, Acting Secretary (2 copies)





April 9, 1997

Marideth Sandler  
Associate Director  
State of Alaska, Office of the Governor  
444 N. Capitol St., NW  
Suite 336  
Washington, DC 20001

Dear Marideth:

This letter is an attempt to respond to the various questions in your letter of April 3, 1997. As you note, the information you request is an attempt to help the FCC determine the magnitude of its universal support obligation for rural health providers in Alaska. An exact answer would require a detailed study by our engineers and salespeople in response to a specific request for service outlining the exact services including the term of the contract. In the absence of an exact request, we supply the following information.

A T-1 line from the regional centers to Anchorage would range in price from \$13,000 to \$17,000 per month per line. These figures do not include the local exchange carrier charges for special access which range from \$300 to \$620 per line per month.

Frame relay service from the regional centers would range from \$10,000 to \$15,000 per month per line. These figures do not include the local exchange carrier charges for special access which range from \$300 to \$620 per line per month.

It would seem that the smaller villages would not need T-1 capability. They would need Internet access and the ability to provide record imaging on a store and forward basis. It would seem that the doctor in the regional center would not sit at his computer to talk with the patient via video conference, but would want the relevant information including x-rays, pictures from various scopes and probes and the relevant vital signs forwarded to him for his examination. This could be accomplished in one of two ways. The health care provider in the rural village could purchase a DS0 (56 kbps) line from the smaller towns to the regional centers for \$2,000 to \$3,500 per month per line. These figures do not include the local exchange carrier charges for special access which

range from \$115 to \$175 per line per month. Alternatively, the provider could purchase a regular telephone line and use a dial up modem on a per minute basis.

Obviously, the clinics and hospitals will need equipment, which is not covered under the proposed universal service plan to use these service effectively. This would include, among other things, personal computers and equipment to digitalize x-rays and various pictures taken from probes and scopes.

I hope that this responds to your inquiry.

Sincerely,



Kathy L. Shobert  
Director, Federal Affairs



210 East Bluff Drive  
Anchorage AK 99501-1100

April 10, 1997

Ms. Marideth Sandler  
Associate Director  
Hall of States  
Suite 336  
444 North Capitol Street N.W.  
Washington, D.C.

Dear Marideth:

Before delving into the attached documents, I want to thank you for providing AT&T Alascom with this opportunity to provide you and the FCC with information on the cost of providing private line service between health care providers in rural Alaska and other parts of Alaska and Seattle. We at AT&T Alascom view the provision of high quality health care to rural areas as a critical service that should be made available to all citizens regardless of geographic location.

Behind this cover letter, you will find three attachments. The three attachments are used together to develop charges for providing private line service between a point within Alaska and either Anchorage or Seattle, for locations served by either terrestrial microwave or satellite earth station. Attachment A provides information on the type of transport facility available at each location in Alaska plus a matrix indicating mileage between all points within Alaska. This information is used to determine if a particular location is served by terrestrial microwave (designated by a "T") or a satellite earth station (designated by an "S" for an analog earth station or a "DS" for a digital earth station). Attachment A also contains a matrix which identifies mileage between any two points within Alaska. Mileage information is critical in establishing private line charges for any locations served by terrestrial microwave as the eventual charge is mileage dependent.

Attachment B provides actual terrestrial microwave charges for DS-1, 384 kbps and 64 kbps by specific distance as measured by airline miles. Columns E, F, and G indicate terrestrial microwave charges for transport within Alaska to Anchorage; Columns H, I, and J provide charges for transport on the North Pacific Cable (NPC) from Anchorage to Seattle; the last three columns provide the charges for transport from points within Alaska to Seattle when microwave facilities are used in conjunction with the NPC. Lacking specific cost estimates, the charges shown in Attachment B are based on rates found in Alascom's FCC interstate tariff.

As an example of how Attachments A and B are used to derive a charge for service between a point in Alaska and Seattle, assume that a health care practitioner in Healy, Alaska needs a 64 kbps circuit to Seattle. Attachment A indicates that Healy, Alaska is served by a terrestrial microwave system and is 182 airline miles from Anchorage. Attachment B indicates that at a distance of 182 miles, a 64 kbps circuit to Anchorage will cost \$796.25 and the charge for transport on the NPC to Seattle is \$1,750; therefore the charge for a 64 kbps circuit between Healy and Seattle is \$2,546.25 per month.

Attachment C provides a range for private line charges between locations served by satellite earth stations. The charges shown in Attachment 3 represent rough estimates for satellite based service between two earth stations. The variation in cost for any one bandwidth specification is driven largely by the type of earth station found at any one location. For earth stations that are presently digital, the costs will be lower than for those requiring an upgrade to digital capability. Exact costs estimates would require more specific information on the exact locations in question. Unlike terrestrial systems, the charges for satellite service do not typically vary by mileage; the main component of satellite costs is the amount of bandwidth required on a satellite transponder. Therefore, assuming equally equipped earth stations, the costs between a rural earth station and one in either Anchorage or the Seattle area are similar for private line service of the same speed.

Should you have any questions regarding the information contained in these attachments, please contact me at (907) 264-7308.

Sincerely,



Mark Vasconi  
Regulatory Affairs Director  
Alascom, Inc. d/b/a/ AT&T Alascom

cc: Bob Halperin

**Attachment A**

Alaska Telmed Sites: IXC Service Availability

	A	B	C	D	E	F
1			Dedicated Private Line			
2	<b>COMMUNITIES</b>	Frame Relay*	Up to 128K*	Up to DS-1*	Up to DS-1 w/ Some Additional Equip.*	ISDN*
3	<i>Communities with Hospitals</i>					
DS/T	4 Anchorage	x		x		pending in 97
DS	5 Barrow	x		x		pending in 97
DS	6 Bethel	x		x		pending in 97
DS	7 Cordova	x		x		
DS	8 Dillingham	x		x		pending in 97
DS/T	9 Fairbanks	x		x		
T	10 Homer	x		x		
S/T	11 Juneau	x		x		
S/T	12 Ketchikan	x		x		
DS	13 Kodiak	x		x		
DS	14 Kotzebue	x		x		pending in 97
DS	15 Nome	x		x		pending in 97
T	16 Palmer	x		x		
DS/T	17 Petersburg	x		x		
T	18 Seward	x		x		
DS/T	19 Sitka	x		x		
T	20 Soldotna	x		x		
DS/T	21 Valdez	x		x		
T	22 Wrangell <i>ANALOG AS OF 4/97</i>					
	23					
	<i>Communities with Physician but no Hospital</i>					
T	24 Hospital					
T	25 Chugiak			x		
T	26 Craig					
T	27 Delta Junction	x		x		
T	28 Eagle River			x		
T	29 Girdwood			x		
T	30 Glenallen	x				
S	31 Golovin		x			pending in 97
T	32 Haines	x				
T	33 Kenai	x		x		
T	34 Metchikof					
S	35 Naknek					
S	36 Seldovia			x		
T	37 Talkeetna					
T	38 Wasilla	x		x		

Alaska Telmed Sites: IXC Service Availability

	A	B	C	D	E	F
1			Dedicated Private Line			
2	COMMUNITIES	Frame Relay	Up to 128K	Up to DS-1	Up to DS-1 w/ Some Additional Equip.	ISDN
39						
	Communities with					
	Mid-Level Practitioner					
DS 41	Akutan		x		x	pending in 97
DS 42	Aniak					
DS 43	Chignik		x		x	pending in 97
DS 44	Cold Bay		x		x	pending in 97
DS 45	Ft. Yukon					
DS 46	Galena	x				
T 47	Gustavus					
T 48	Healy			x		
T 49	Hoonah					
T 50	Kake					
DS 51	King Cove		x			pending in 97
T 52	Klawock					
DS 53	McGrath	x				
T 54	Nenana					
DS 55	Sand Point		x		x	pending in 97
T 56	Skagway	x				
S 57	St. George					
DS 58	St. Paul	x				
T 59	Skagway	x				
T 60	Thorne Bay					
S 61	Togiak		x		x	pending in 97
T 62	Tok	x		x		
DS 63	Unalakleet	x	x	x	x	pending in 97
DS 64	Unalaska	x		x		
DS 65	Yakutat	x		x		
66						
	Communities with					
	Community Health					
	Alde					
J 68	Akhlok					
	Akloohak					
S 70	Akiak					
S 71	Alakanuk					
	Aleknagik					
DS 73	Aliakaket					

Alaska Telmed Sites: IXC Service Availability

	A	B	C	D	E	F
1			Dedicated Private Line			
2	<b>COMMUNITIES</b>	Frame Relay	Up to 128K	Up to DS-1	Up to DS-1 w/ Some Additional Equip.	ISDN
S	74	Amber		x		pending in 97
D	75	Anaktuvuk Pass		x		pending in 97
S	76	Angoon				
T	77	Anvik				
S	78	Arctic Village				
S	79	Atka				
S	80	Atmautluk				
D	81	Atkasuk		x		pending in 97
S	82	Beaver				
S	83	Brevig Mission				
S	84	Buckland		x		pending in 97
T	85	Cantwell				
S	86	Chalkyitsik				
S	87	Chefomak				
D	88	Chenega				
S	89	Chevak				
S	90	Chignik Lagoon		x		pending in 97
S	91	Chignik Lake		x		pending in 97
S	92	Chitina				
S	93	Christochina				
S	94	Chuathbaluk				
S	95	Circle				
T	96	Clark's Point		x		pending in 97
S	97	Copper Center				
S	98	Crooked Creek				
S	99	Doering		x		pending in 97
S	100	Diomedes				
T	101	Dot Lake				
S	102	Eagle				
S	103	Eak				
S	104	Ekwok		x		pending in 97
S	105	Ellm		x		pending in 97
S	106	Emmonak				
S	107	Egigig				
S	108	Evansville				
S	109	False Pass		x		pending in 97
T	110	Gakona				
S	111	Gambell				
S	112	Goodnews Bay				

Alaska Telmed Sites: IXC Service Availability

	A	B	C	D	E	F
1			Dedicated Private Line			
		Frame Relay	Up to 128K	Up to DS-1	Up to DS-1 w/ Some Additional Equip.	ISDN
2	COMMUNITIES					
S	113 Crayling					
T	114 Gulkana					
S	115 Holy Cross					
S	116 Hooper Bay					
DS	117 Hughes					
S	118 Huslia					
T	119 Hydaburg					
S	120 Igluigig					
DS	121 Iliamna		x			pending in 97
S	122 Ivutof Bay					
DS	123 Kaktovik		x			pending in 97
S	124 Kaltag					
S	125 Kartuk					
S	126 Kasaan					
S	127 Kasigluk					
S	128 Klana		x			pending in 97
DS	129 King Salmon	x		x		
S	130 Kipnuk					
S	131 Kivalina		x			pending in 97
S	132 Klukwan					
S	133 Kobuk		x			pending in 97
S	134 Kokhanok					
S	135 Koliganek		x			pending in 97
S	136 Kongiganak					
S	137 Kotik					
S	138 Koyuk		x			pending in 97
S	139 Koyukuk					
T	140 Kwethluk					
S	141 Kwigillingok					
S	142 Larsen Bay					
S	143 Levelock		x			pending in 97
S	144 Lime Village					
S	145 Lower Kalskag					
S	146 Manley Hot Springs					
S	147 Manokotak		x			pending in 97
S	148 Marshall					
S	149 Mekoryuk					
S	150 Mentasta Lake					
S	151 Minto					

Alaska Telmed Sites: IXC Service Availability

	A	B	C	D	E	F
1			Dedicated Private Line			
2	COMMUNITIES	Frame Relay	Up to 128K*	Up to DS-1*	Up to DS-1 w/ Some Additional Equip.*	ISDN*
S	162 Mountain Village					
T	163 Nepakiak					
T	164 Napuskiak					
S	165 Nelson Lagoon		X			pending in 97
S	166 New Stuyahok		X			pending in 97
S	167 Newhalen					
S	168 Newtown					
S	169 Newtown					
S	160 Nightmute					
S	161 Nikolai					
T	162 Niinlichik					
S	163 Niliski					
S	164 Noatak		X			pending in 97
S	165 Nondalton		X			pending in 97
S	166 Noorvik		X			pending in 97
T	167 North Pole					
T	168 Northway					
S	169 Nulato					
T	170 Nunapitohuk					
	171 Oscarville					
S	172 Ouzinkie					
S	173 Pedro Bay					
T	174 Pelican					
S	175 Perryville		X			pending in 97
S	176 Pilot Point		X			pending in 97
S	177 Pilot Station					
	178 Pitkas Point					
S	179 Platinum					
D S	180 Point Hope		X			pending in 97
D S	181 Point Lay		X			pending in 97
S	182 Port Graham					
S	183 Port Helden		X			pending in 97
S	184 Port Lions					
S	185 Qunhagak					
S	186 Rampart					
S	187 Red Devil					
S	188 Ruby					
S	189 Russian Mission					
S	190 Savoonga					

Alaska Telmed Sites: IXC Service Availability

	A	B	C	D	E	F
1			Dedicated Private Line			
2	COMMUNITIES	Frame Relay	Up to 128K	Up to DS-1	Up to DS-1 w/ Some Additional Equip.	ISDN
S	191 Scammon Bay					
S	192 Selawik		x			pending in 97
S	193 Shageluk					
S	194 Shaktoolik		x			pending in 97
S	195 Sheldon Point					
S	196 Shismaref		x			pending in 97
S	197 Shungnak		x			pending in 97
S	198 Sleetmute					
S	199 South Naknek					
S	200 St. Mary's					
S	201 St. Michael		x			pending in 97
S	202 Stebbins		x			pending in 97
S	203 Stevens Village					
S	204 Stony River					
S	205 Takotna					
S	206 Tanacross					
S	207 Tetlik					
DS	208 Teller		x			pending in 97
T	209 Tetlin					
S	210 Toksook Bay					
S	211 Tuluksak					
S	212 Tuntutuliak					
S	213 Tununak					
S	214 Twin Hill					
T	215 Tyonek					
S	216 Upper Kalekag					
S	217 Venette					
T	218 Wales		x			pending in 97
T	219 White Mountain		x			pending in 97
	220					
	221					
	222					
	223					
	224					
	225					
	226					
	227					
	228					
	229					

Alaska Telmed Sites: IXC Service Availability

	A	B	C	D	E	F
1			Dedicated Private Line			
2	COMMUNITIES	Frame Relay	Up to 128K	Up to DS-1	Up to DS-1 w/ Some Additional Equip.	ISDN
230	<b>Note on Column Headings:</b>					
231	<b>Frame Relay:</b> This column shows locations where either Alascom or GCI provides frame relay service. Rates for both carriers are shown on a separate spreadsheet. Also, both carriers indicate that there are certain incompatibilities with using frame relay for video conferencing. GCI comments (see letter) indicate that frame relay's incompatibilities are due to frame relay's varying time delays, bursting at various speeds, and discarding of data packets. Alascom's comments (see letter) indicated that while video conferencing over frame relay may be possible, they have had a great deal of difficulty making it work in that environment.					
232						
233						
234						
235						
236						
237						
238	<b>Private Line up to 128K:</b> These locations include GCI's small and intermediate demand assigned multiple access (DAMA) locations. Each GCI DAMA channel is capable of providing up to 128K bandwidth and can be used for private line service. Although Alascom has previously indicated that it has plans to install DAMA facilities in approximately 90 locations, its response to our information request did not include information on the capabilities of any of these locations to provide DS-0 or DS-1 private line service or when any of those locations would be operational.					
239						
240						
241						
242						
243	<b>Private Line up to DS-1:</b> These are the locations where Alascom or GCI have indicated that they have the technical capability to provide T-1 or DS-1 service. However, except for Anchorage, Fairbanks and Juneau, T-1 or DS-1 service at these locations is not currently tariffed on an intrastate basis. It should also be noted that Alascom and GCI have also reported that LEC are not always capable of providing exchange access for DS-1 service.					
244						
245						
246						
247	<b>Up to DS-1 with Additional Equipment:</b> These are the locations where GCI has intermediate DAMA facilities. Although not currently equipped to provide DS-1 service, these intermediate DAMA facilities can combine individual 128K channels into a DS-1 private line with "some additional equipment".					
248						
249						
250						
251	<b>ISDN:</b> GCI has indicated that it will be able to provide ISDN from any DAMA location sometime during 1997. The only incumbent LECs currently providing ISDN is ATU.					
252						
253						
254						
255						
256						
257	<b>Note on Internet Bandwidth:</b>					
258	Although there are commercial Internet service providers (ISP) that connect to an Internet node over T-1 facilities there is no guarantee that any Internet customer will achieve that level of throughput. Once a customer reaches the ISP's server, that customer is using shared facilities from that point forward. The largest commercial ISP in the state has 3 T-1 lines to an Internet node which are shared by 16,000 customers.					
259						
260						
261						
262						
263						
264						







TELEDEALS

Company Name with Health Care Facilities	2132	4364	493	747	5	637	838	2	58	264	635	1085	457	665	451	1233	317	483	414	324	247	517	1159	519	1071	1008	459	221	450	856	612	607	1189	856
North	2068	4117	503	778	39	845	558	284	618	385	808	1015	459	8871	459	1236	308	478	445	344	278	827	1183	324	1071	1014	465	308	462	862	681	617	1193	862
Nichols	2419	3169	721	577	254	383	314	288	273	130	227	720	265	784	215	882	290	353	338	0	217	229	883	282	801	745	224	674	741	676	328	220	821	576
Nichols	1782	3274	102	789	863	280	356	254	364	388	350	573	38	824	38	809	203	158	577	339	237	336	714	77	823	671	34	780	708	417	185	130	744	417
Nichols	580	6325	914	322	883	1020	1126	576	1709	919	1639	1364	842	860	681	1515	622	733	988	844	638	847	1451	392	1351	1359	851	385	117	1208	1077	909	1475	1206
Norfolk	3513	3116	585	298	480	707	543	618	464	238	433	1017	844	869	587	1311	840	752	80	383	223	540	1201	356	1131	1007	803	78	854	893	664	574	1233	895
Norfolk	2018	2528	0	720	484	147	224	340	259	228	653	611	123	874	65	775	283	254	545	321	197	35	675	78	59	513	63	175	880	353	118	28	708	365
Norfolk	3375	3765	512	323	478	635	679	586	400	184	363	858	576	621	525	1243	678	582	42	114	204	508	1134	584	1062	941	530	734	815	828	282	502	1106	826
North Pole	2729	2580	236	514	588	284	865	546	15	284	188	548	377	613	315	638	517	868	457	382	338	222	726	327	684	530	316	108	1007	432	251	228	780	432
North Pole	2461	2930	289	693	670	214	146	628	219	474	134	331	358	411	327	638	921	51	850	433	224	254	527	322	488	327	349	1284	1089	248	198	284	569	248
Norwalk	2379	3695	353	456	748	486	372	404	336	35	328	823	408	892	564	1109	418	545	195	144	217	361	1001	421	824	817	363	384	888	688	448	348	1131	369
Norwalk	2374	4159	421	735	71	365	575	195	537	318	263	981	384	892	379	1173	327	412	412	264	268	448	1085	446	97	930	585	382	584	783	548	438	1116	789
Norwalk	2368	4105	434	740	0	348	582	176	527	346	347	911	384	874	369	1180	222	394	421	254	280	421	1068	427	978	615	387	382	508	784	327	478	897	764
Odessa	1300	3133	247	833	386	300	478	229	504	494	371	623	125	683	162	844	182	10	635	364	824	274	736	187	648	827	187	864	616	473	110	273	706	473
Odessa	1718	2295	178	789	276	293	401	168	405	253	330	867	80	708	182	880	117	351	554	225	488	210	798	184	704	184	624	500	281	302	826	503	80	
Odessa	1478	1249	328	1092	320	391	528	638	808	825	430	91	561	71	660	252	744	598	1031	742	1089	514	147	483	72	108	554	1237	1287	167	476	827	179	767
Odessa	908	2971	487	1065	320	524	727	378	729	615	346	903	382	945	432	1007	214	288	786	502	600	530	1007	680	915	914	434	436	330	750	381	528	833	780
Odessa	1270	2734	372	949	270	489	592	97	600	497	811	262	853	368	1903	318	218	38	682	378	406	436	923	341	638	814	309	477	436	858	89	388	857	888
Odessa	2232	1160	430	871	82	578	561	254	518	271	381	345	412	306	387	1200	326	489	345	244	188	488	1183	466	1018	842	403	419	568	785	547	448	1334	288
Odessa	2308	4181	410	651	37	588	561	270	510	288	963	654	424	015	88	1218	328	473	333	249	183	68	1113	477	607	951	414	422	378	808	366	448	1144	808
Odessa	1637	4169	438	883	122	589	632	118	603	427	992	933	363	984	363	1154	188	361	543	243	297	688	1068	441	817	834	388	387	388	778	384	688	1087	778
Odessa	3752	4184	696	394	943	621	858	381	575	388	748	1128	754	1200	268	124	734	883	152	883	288	888	1344	782	1265	1119	711	730	1080	1008	777	688	348	1028
Odessa	3978	3822	696	778	688	804	809	382	523	381	710	1088	772	1163	712	1381	713	884	158	511	388	888	1269	771	1288	1070	722	889	1102	803	158	680	1301	973
Odessa	3808	3848	140	837	381	227	331	340	402	408	286	580	25	828	17	882	118	818	610	278	385	884	715	89	623	582	66	680	878	426	226	175	743	428
Odessa	1147	3884	430	886	280	328	880	38	603	545	384	886	322	805	288	1049	148	244	888	430	370	48	974	401	881	888	371	488	378	714	528	463	1064	714
Odessa	1230	2734	372	949	270	489	592	97	600	497	811	262	853	368	1903	318	218	38	682	378	406	436	923	341	638	814	309	477	436	858	89	388	857	888
Odessa	1817	4170	428	812	73	886	819	48	580	385	578	938	388	987	318	1163	285	373	482	388	348	488	1074	438	984	933	384	288	436	780	546	448	1104	780
Odessa	2931	3857	283	430	488	388	388	88	203	274	640	407	712	348	888	614	228	384	248	488	278	827	318	761	632	345	761	632	345	761	632	345	761	632
Odessa	2182	3588	249	857	887	388	388	388	206	384	788	245	824	218	1021	214	228	384	98	314	288	922	278	817	781	228	527	646	814	388	288	884	614	
Odessa	2827	3353	300	454	380	428	284	117	228	42	517	781	374	620	318	8038	418	481	248	824	284	285	831	318	666	744	313	221	847	820	388	288	883	620
Odessa	2243	4006	378	888	73	525	513	272	471	246	513	884	382	948	288	418	288	416	385	288	282	401	1052	418	885	892	352	498	988	744	488	380	1083	744
Odessa	2875	4790	677	836	242	823	748	517	684	413	768	1183	678	1247	635	1452	573	737	370	463	163	891	1351	724	1268	1178	661	454	680	1039	786	661	1382	1038
Odessa	2949	4633	618	885	143	884	631	316	549	335	640	1063	497	1093	415	1288	374	336	358	328	184	828	1181	553	1194	1030	481	388	532	883	635	528	822	883
Odessa	3058	3706	481	334	406	400	447	585	388	156	331	918	547	888	495	1211	565	653	72	283	212	473	1101	558	1160	809	500	134	903	794	680	448	1138	784
Odessa	2401	3794	323	601	151	473	671	263	351	166	448	638	337	882	328	1104	280	416	304	125	221	348	1009	377	910	835	814	434	638	692	442	348	1032	692
Odessa	2788	3894	417	450	248	558	484	338	483	130	578	880	452	973	411	1185	417	343	178	196	128	428	1080	477	1001	900	417	483	748	767	578	495	1132	782
Odessa	2407	3325	485	842	155	640	801	311	547	287	619	1008	488	1078	487	1288	393	388	288	288	177	582	1178	536	1028	1004	473	419	601	880	678	501	1301	880
Odessa	3293	4249	802	418	489	787	807	362	382	282	872	1021	642	1148	601</																			



**Attachment B**

Mileage to Anchr.	Mileage Rates			Terrestrial Charges (Points Within Alaska To Anchr.)			Fiber Cable Rates (Anchr- Seattle)			Combined Terrestrial Cable Rates (Points Within Alaska To Seattle)		
	DS-1	384 KBPS	64 KBPS	DS-1	384 KBPS	64 KBPS	DS-1	384 KBPS	64 KBPS	DS-1	384 KBPS	64 KBPS
	Charges	Charges	Charges	Charges	Charges	Charges	Charges	Charges	Charges	Charges	Charges	Charges
A	B	C	D	E	F	G	H	I	J	E+H	F+I	G+J
20	\$43.75	\$21.88	\$4.38	\$ 875.00	\$ 437.50	\$ 87.50	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 18,375.00	\$ 6,562.50	\$ 1,837.50
21	\$43.75	\$21.88	\$4.38	\$ 918.75	\$ 459.38	\$ 91.88	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 18,418.75	\$ 6,584.38	\$ 1,841.88
22	\$43.75	\$21.88	\$4.38	\$ 962.50	\$ 481.25	\$ 96.25	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 18,462.50	\$ 6,606.25	\$ 1,846.25
23	\$43.75	\$21.88	\$4.38	\$ 1,006.25	\$ 503.13	\$ 100.63	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 18,506.25	\$ 6,628.13	\$ 1,850.63
24	\$43.75	\$21.88	\$4.38	\$ 1,050.00	\$ 525.00	\$ 105.00	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 18,550.00	\$ 6,650.00	\$ 1,855.00
25	\$43.75	\$21.88	\$4.38	\$ 1,093.75	\$ 546.88	\$ 109.38	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 18,593.75	\$ 6,671.88	\$ 1,859.38
26	\$43.75	\$21.88	\$4.38	\$ 1,137.50	\$ 568.75	\$ 113.75	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 18,637.50	\$ 6,693.75	\$ 1,863.75
27	\$43.75	\$21.88	\$4.38	\$ 1,181.25	\$ 590.63	\$ 118.13	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 18,681.25	\$ 6,715.63	\$ 1,868.13
28	\$43.75	\$21.88	\$4.38	\$ 1,225.00	\$ 612.50	\$ 122.50	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 18,725.00	\$ 6,737.50	\$ 1,872.50
29	\$43.75	\$21.88	\$4.38	\$ 1,268.75	\$ 634.38	\$ 126.88	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 18,768.75	\$ 6,759.38	\$ 1,876.88
30	\$43.75	\$21.88	\$4.38	\$ 1,312.50	\$ 656.25	\$ 131.25	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 18,812.50	\$ 6,781.25	\$ 1,881.25
31	\$43.75	\$21.88	\$4.38	\$ 1,356.25	\$ 678.13	\$ 135.63	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 18,856.25	\$ 6,803.13	\$ 1,885.63
32	\$43.75	\$21.88	\$4.38	\$ 1,400.00	\$ 700.00	\$ 140.00	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 18,900.00	\$ 6,825.00	\$ 1,890.00
33	\$43.75	\$21.88	\$4.38	\$ 1,443.75	\$ 721.88	\$ 144.38	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 18,943.75	\$ 6,846.88	\$ 1,894.38
34	\$43.75	\$21.88	\$4.38	\$ 1,487.50	\$ 743.75	\$ 148.75	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 18,987.50	\$ 6,868.75	\$ 1,898.75
35	\$43.75	\$21.88	\$4.38	\$ 1,531.25	\$ 765.63	\$ 153.13	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,031.25	\$ 6,890.63	\$ 1,903.13
36	\$43.75	\$21.88	\$4.38	\$ 1,575.00	\$ 787.50	\$ 157.50	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,075.00	\$ 6,912.50	\$ 1,907.50
37	\$43.75	\$21.88	\$4.38	\$ 1,618.75	\$ 809.38	\$ 161.88	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,118.75	\$ 6,934.38	\$ 1,911.88
38	\$43.75	\$21.88	\$4.38	\$ 1,662.50	\$ 831.25	\$ 166.25	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,162.50	\$ 6,956.25	\$ 1,916.25
39	\$43.75	\$21.88	\$4.38	\$ 1,706.25	\$ 853.13	\$ 170.63	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,206.25	\$ 6,978.13	\$ 1,920.63
40	\$43.75	\$21.88	\$4.38	\$ 1,750.00	\$ 875.00	\$ 175.00	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,250.00	\$ 7,000.00	\$ 1,925.00
41	\$43.75	\$21.88	\$4.38	\$ 1,793.75	\$ 896.88	\$ 179.38	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,293.75	\$ 7,021.88	\$ 1,929.38
42	\$43.75	\$21.88	\$4.38	\$ 1,837.50	\$ 918.75	\$ 183.75	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,337.50	\$ 7,043.75	\$ 1,933.75
43	\$43.75	\$21.88	\$4.38	\$ 1,881.25	\$ 940.63	\$ 188.13	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,381.25	\$ 7,065.63	\$ 1,938.13
44	\$43.75	\$21.88	\$4.38	\$ 1,925.00	\$ 962.50	\$ 192.50	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,425.00	\$ 7,087.50	\$ 1,942.50
45	\$43.75	\$21.88	\$4.38	\$ 1,968.75	\$ 984.38	\$ 196.88	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,468.75	\$ 7,109.38	\$ 1,946.88
46	\$43.75	\$21.88	\$4.38	\$ 2,012.50	\$ 1,006.25	\$ 201.25	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,512.50	\$ 7,131.25	\$ 1,951.25
47	\$43.75	\$21.88	\$4.38	\$ 2,056.25	\$ 1,028.13	\$ 205.63	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,556.25	\$ 7,153.13	\$ 1,955.63
48	\$43.75	\$21.88	\$4.38	\$ 2,100.00	\$ 1,050.00	\$ 210.00	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,600.00	\$ 7,175.00	\$ 1,960.00
49	\$43.75	\$21.88	\$4.38	\$ 2,143.75	\$ 1,071.88	\$ 214.38	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,643.75	\$ 7,196.88	\$ 1,964.38
50	\$43.75	\$21.88	\$4.38	\$ 2,187.50	\$ 1,093.75	\$ 218.75	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,687.50	\$ 7,218.75	\$ 1,968.75
51	\$43.75	\$21.88	\$4.38	\$ 2,231.25	\$ 1,115.63	\$ 223.13	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,731.25	\$ 7,240.63	\$ 1,973.13
52	\$43.75	\$21.88	\$4.38	\$ 2,275.00	\$ 1,137.50	\$ 227.50	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,775.00	\$ 7,262.50	\$ 1,977.50
53	\$43.75	\$21.88	\$4.38	\$ 2,318.75	\$ 1,159.38	\$ 231.88	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,818.75	\$ 7,284.38	\$ 1,981.88
54	\$43.75	\$21.88	\$4.38	\$ 2,362.50	\$ 1,181.25	\$ 236.25	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,862.50	\$ 7,306.25	\$ 1,986.25
55	\$43.75	\$21.88	\$4.38	\$ 2,406.25	\$ 1,203.13	\$ 240.63	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,906.25	\$ 7,328.13	\$ 1,990.63
56	\$43.75	\$21.88	\$4.38	\$ 2,450.00	\$ 1,225.00	\$ 245.00	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,950.00	\$ 7,350.00	\$ 1,995.00
57	\$43.75	\$21.88	\$4.38	\$ 2,493.75	\$ 1,246.88	\$ 249.38	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 19,993.75	\$ 7,371.88	\$ 1,999.38
58	\$43.75	\$21.88	\$4.38	\$ 2,537.50	\$ 1,268.75	\$ 253.75	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,037.50	\$ 7,393.75	\$ 2,003.75
59	\$43.75	\$21.88	\$4.38	\$ 2,581.25	\$ 1,290.63	\$ 258.13	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,081.25	\$ 7,415.63	\$ 2,008.13
60	\$43.75	\$21.88	\$4.38	\$ 2,625.00	\$ 1,312.50	\$ 262.50	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,125.00	\$ 7,437.50	\$ 2,012.50
61	\$43.75	\$21.88	\$4.38	\$ 2,668.75	\$ 1,334.38	\$ 266.88	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,168.75	\$ 7,459.38	\$ 2,016.88
62	\$43.75	\$21.88	\$4.38	\$ 2,712.50	\$ 1,356.25	\$ 271.25	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,212.50	\$ 7,481.25	\$ 2,021.25
63	\$43.75	\$21.88	\$4.38	\$ 2,756.25	\$ 1,378.13	\$ 275.63	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,256.25	\$ 7,503.13	\$ 2,025.63
64	\$43.75	\$21.88	\$4.38	\$ 2,800.00	\$ 1,400.00	\$ 280.00	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,300.00	\$ 7,525.00	\$ 2,030.00
65	\$43.75	\$21.88	\$4.38	\$ 2,843.75	\$ 1,421.88	\$ 284.38	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,343.75	\$ 7,546.88	\$ 2,034.38
66	\$43.75	\$21.88	\$4.38	\$ 2,887.50	\$ 1,443.75	\$ 288.75	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,387.50	\$ 7,568.75	\$ 2,038.75
67	\$43.75	\$21.88	\$4.38	\$ 2,931.25	\$ 1,465.63	\$ 293.13	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,431.25	\$ 7,590.63	\$ 2,043.13
68	\$43.75	\$21.88	\$4.38	\$ 2,975.00	\$ 1,487.50	\$ 297.50	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,475.00	\$ 7,612.50	\$ 2,047.50
69	\$43.75	\$21.88	\$4.38	\$ 3,018.75	\$ 1,509.38	\$ 301.88	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,518.75	\$ 7,634.38	\$ 2,051.88
70	\$43.75	\$21.88	\$4.38	\$ 3,062.50	\$ 1,531.25	\$ 306.25	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,562.50	\$ 7,656.25	\$ 2,056.25
71	\$43.75	\$21.88	\$4.38	\$ 3,106.25	\$ 1,553.13	\$ 310.63	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,606.25	\$ 7,678.13	\$ 2,060.63
72	\$43.75	\$21.88	\$4.38	\$ 3,150.00	\$ 1,575.00	\$ 315.00	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,650.00	\$ 7,700.00	\$ 2,065.00
73	\$43.75	\$21.88	\$4.38	\$ 3,193.75	\$ 1,596.88	\$ 319.38	\$ 17,500.00	\$ 6,125.00	\$ 1,750.00	\$ 20,693.75	\$ 7,721.88	\$ 2,069.38